

REMARKS/ARGUMENTS

Applicants would like to thank Examiner LaClair for the helpful and courteous interview held February 23, 2011. The discussion held during the interview is summarized and expanded upon below.

Pending independent Claim 1 relates to a polycarbonate resin composition comprising a resin mixture of, among other things, components (A) and (B) where component (A) comprises:

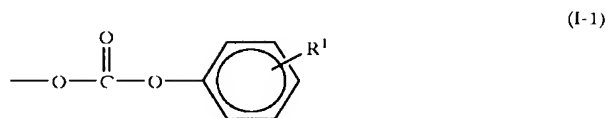
(A-1) 10 to 100 mass% of an aromatic polycarbonate resin wherein dihydroxybiphenyl is used in an amount of 5 to 50 mol% with respect to the total amount of divalent phenol as a raw material in the formation of the aromatic polycarbonate resin and

(A-2) 90 to 0 mass% of an aromatic polycarbonate resin other than the aromatic polycarbonate resin of component (A-1),

and where component (B) is an amorphous styrene resin, the mass ratio of component (A) to component (B) being 50:50 to 95:5. This claim has been rejected as obvious over the combination of Okamoto, Meyer and Reinert or Nodera, where Reinert and Nodera are cited as showing component (E) herein. However, and as discussed at the interview, Applicants respectfully submit that Okamoto and Meyer cannot be properly combined, and as such the combination of Okamoto, Meyer and Reinert or Noder fail to present a *prima facie* case of obviousness.

Okamoto, viewed through its equivalent, U.S. 2004/0030044 (US '044), provides its stated objects "by using an aromatic polycarbonate resin having a specific terminal group" [0018] (emphasis added), which specific terminal groups are relied upon repeatedly in the disclosure of the invention at, e.g., paragraphs [0020], [0030], [0032], [0042], [0044], [0045], etc. These specific terminal groups all generally have structures similar to that of formula

(I-1) of the reference:



As discussed and agreed during the interview, the disclosed embodiment used in Okamoto in framing the rejection is that of the “second aspect” thereof as detailed in paragraph [0030] in view of its disclosure of a styrenic resin. Regardless, it is unquestionably the case the Okamoto relies upon his “specific terminal groups” for providing the properties sought by the reference polycarbonate resins, and that no other polycarbonate resins are suggested.

Meyer, on the other hand, relates to phenolic compounds having a branched structure ([0002]) useful as terminal groups in preparing polycarbonates having dendrimer-like structures [0020].¹ These branched phenolic compounds are nothing like the specific terminal groups in Okamoto, as the polycarbonate resins in Okamoto are not described as having dendrimer-like structures nor would they be expected to, based on their more traditional monomeric units.

Against this background the Office has suggested that one of ordinary skill in the art would have looked to Meyer in modifying Okamoto. However, and as discussed at the interview, Applicants submit that one of ordinary skill would not have combined these two references due to their very specific reliance on different and distinct terminal groups, and the different properties provided thereby. In this regard, one of ordinary skill in this art would not have, e.g., modified the content of dihydroxybiphenyl in the Okamoto resins based on Meyer, and thus would have no reason or suggestion to provide a polycarbonate resin composition as presently claimed. For these reasons and those presented below Applicants request the

¹ Dendrimers are repeatedly branched, roughly spherical large molecules. See <http://en.wikipedia.org/wiki/Dendrimer> and <http://en.wikipedia.org/wiki/Dendrite>.

reconsideration and withdrawal of the rejections over Okamoto, Meyer and Reinert or Nodera.

In addition to the above, Applicants have presented numerous Examples and Comparative Examples herein, both in the original specification and in Declaration form. This data is supportive of a conclusion of patentability herein, and supplements the arguments set forth above with regard to the noncombinability of Okamoto and Meyer.

Specifically, and with regard to Tables 1 and 2 at specification pages 24 and 25:

Table 1

Components admixed (parts by mass)		Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7	Example 8
(A)	PC-1	15	35					40	
	PC-2		30	30	30	35	35		
	PC-3	70	20	50	50	50	50	40	85
(B)	ABS-1				20				
	ABS-2	15	15	20				20	
	AS-1					15			15
	AS-2						15		
	Plasticizer-a								
(C)	Talc		10	10	10	10	10	10	10
(D)	Elastomer-1					5			5
	Elastomer-2						5		
(E)	Metal salt-1	0.1						0.1	
	Metal salt-2								0.1
(F)	Silicone							0.3	0.3
(G)	PTFE	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Evaluation	SFL (260°C, 2 mm thick) (cm)	41	37	40	42	45	42	43	43
	Izod impact strength (kJ/cm ²)	70	40	45	45	40	40	40	40
	HDT (load: 1.83 MPa) (°C)	118	125	125	118	117	116	120	120
	Flexural strength (MPa)	60	94	96	92	91	92	94	93
	Flexural modulus (MPa)	2200	3500	3500	3450	3500	3500	3500	3500
	Flame retardance (UL94, 1.5 mm thick)	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0
	LOI	40	39	42	41	41	41	40	44

Table 2

Components admixed (parts by mass)		Comparative example 1	Comparative example 2	Comparative example 3	Comparative example 4	Comparative example 5	Comparative example 6	Comparative example 7
(A)	PC-1	85	80	55	50	90	17	
	PC-2			30	30		30	30
	PC-3		5		5		50	10
(B)	ABS-1	15	15			10	3	60
	ABS-2			15	15			
	AS-1							
	AS-2							
	Plasticizer-a					5		
(C)	Talc		10	10	10	10	10	10
(D)	Elastomer-1							
	Elastomer-2							
(E)	Metal salt-1							
	Metal salt-2	0.1	0.1					
(F)	Silicone							
(G)	PTFE	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Evaluation	SFL (260°C, 2 mm thick) (cm)	41	39	37	37	35	25	50
	Izod impact strength (kJ/cm ²)	65	40	40	40	10	20	10
	HDT (load: 1.83 MPa) (°C)	118	120	120	120	96	120	110
	Flexural strength (MPa)	55	96	95	95	95	95	80
	Flexural modulus (MPa)	2200	3500	3500	3500	3000	3500	3200
	Flame retardance (UL94, 1.5 mm thick)	V-2out	V-1	V-1	V-1	V-1	V-0	V-1
	LOI	30	33	33	33	33	44	33

Examples 1 to 8 of the original specification show resin compositions that exhibit not only an excellent balance among rigidity, heat resistance, fluidity and impact resistance but also an excellent flame retardance, because the polycarbonate-biphenol copolymer component [component (A-1)] is used in amounts according to the invention, thereby improving flame retardance, etc. Comparative examples 1-4 are resin compositions similar to the resin compositions of Examples 1 and 2 except that the polycarbonate-biphenol copolymer component [component (A-1)] is not present, or present in less than the specified amount, providing fluidity comparable to the resin composition of Examples 1 and 2, but with

lowered flame retardance. Comparative example 5 is a resin composition which contains phosphoric acid ester as a plasticizer, providing improved fluidity, but is poor in flame retardance and heat resistance. Comparative example 6 does not exhibit improved fluidity as compared with the resin composition of Example 4, because the amount of component (B) is low with respect to the sum of component (A) and component (B). Finally, Comparative example 7 shows lowered heat resistance, impact strength, and flame resistance as compared with the resin composition of Example 4, because the amount of component (B) is more than specified with respect to the sum of component (A) and component (B).

In addition to the above original data from the specification, a Declaration was filed July 6, 2009, providing polycarbonate resin compositions falling both inside and outside the scope of Applicants' claim:

Table A							
Components admixed (parts by mass)		Example A	Comparative Example		Example 6	Comparative Example	
			A	B		C	D
(A)	PC-2 (A-2)				35	35	35
	PC-3 (A-1)	75	75	75	50	50	50
(B)	AS-1	15	15	15	15	15	15
(C)	Talc	10	0.5	25	10	0.5	25
(D)	Elastomer-1	5	0.5	20			
	Elastomer-2				5	0.5	20
(G)	PTFE	0.5	0.05	5	0.5	0.05	5
Evaluation	SFL (260°C, 2 mm thick) (cm)	39	43	35	42	44	36
	Izod impact strength (kJ/cm ²)	35	5	15	40	6	15
	HDT (load: 1.83 MPa) (°C)	117	115	113	116	118	112
	Flexural strength (MPa)	92	90	87	92	93	87
	Flexural modulus (MPa)	3500	2400	5000	3500	2300	4800
	Flame retardance (UL94, 1.5 mm thick)	Not-V	Not-V	Not-V	V-0	Not-V	Not-V
	LOI	23	22	22	41	26	27

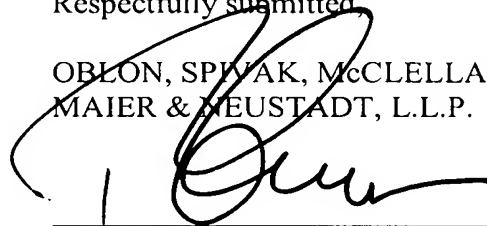
As can be seen from the data above, and described in the Declaration, when the polycarbonate resin compositions fall within the scope of claim 1 (i.e., Examples A and 6),

the obtained molded articles have unexpectedly superior flame retardance and impact resistance. However, when the polycarbonate resin compositions fall outside the scope of claim 1 (i.e., Comparative Examples A-D), the obtained molded articles have inferior flame retardance and impact resistance.

Accordingly, and in view of the above amendment cancelling Claims 23-26, the discussion held during the interview, the above remarks, and the supportive data already of record herein Applicants respectfully submit that this application is now in condition for allowance, and early notification to this effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Richard L. Treanor
Attorney of Record
Registration No. 36,379

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 07/09)